

Building A Program in Astrophysics

Donald K. Walter

The Center for Network Resources and Training

A MU-SPIN NRTS

South Carolina State University



1994 – Existing Resources

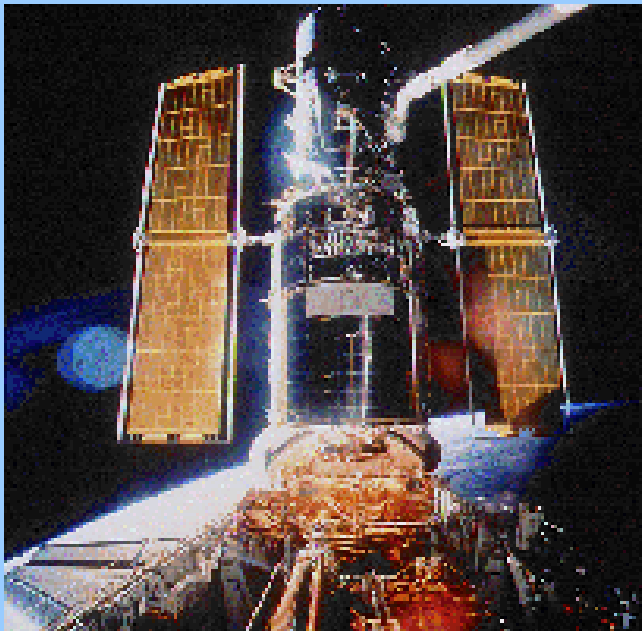
- **Space Grant Member**
- **NASA Educator Resource Center**
- **Planetarium on Campus**
- **Faculty interest in Astronomy**



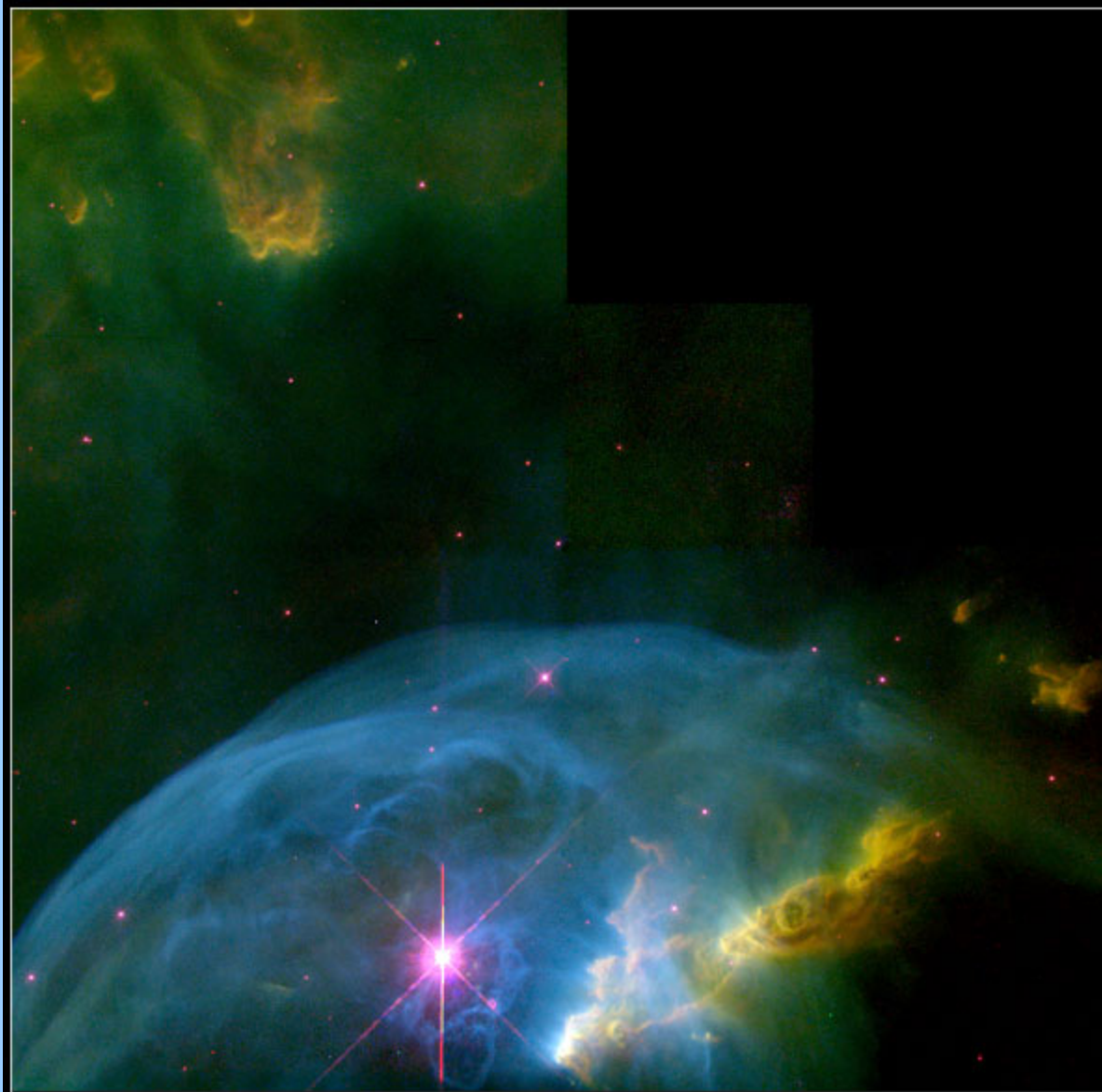
1994 – 97 Initial Buildup

- **Hired an astronomer**
- **Hired physics faculty member with interest in cosmology**
- **Attended December 1994 NASA meeting**
- **NASA facilitated partnering with Tennessee State**
- **TSU – WKU – SCSU awarded MURED URC**
- **SCSU awarded MU-SPIN NRTS**
- **MU-SPIN funds SCSU buildup – UNIX, wiring of faculty, training lab, etc.**

1997 – 2000 Expansion



- HST PI Award to study Bubble
- HST Co-I Award to study NGC 1569
- Collaborations with Caltech, Arizona State, Rice University
- Access to Palomar & Steward Observatories
- Network access & UNIX essential
- Hubble submission entirely on-line
- Image processing in UNIX



Bubble Nebula • NGC 7635

HST • WFPC2

NASA, D. Walter (South Carolina State University)
and P. Scowen (Arizona State University) • STScI-PRC00-04

1997 – 2000 Expansion

- **Past 3 summers day camp in space science middle school – partnered with NRTS K-12 schools**
- **Undergraduate Research Institute in Astrophysics**
- **1998 partnered with CCNY NRTS**
 - **3 undergrads, residential, 8 week summer research at SCSU in astrophysics**
- **1999 expanded to 8 students & other NRTS**
- **2000 had 10 students NRTS, New Mexico St., UVI**
- **Student backgrounds include all MSET fields**

URIA tour of Observatories



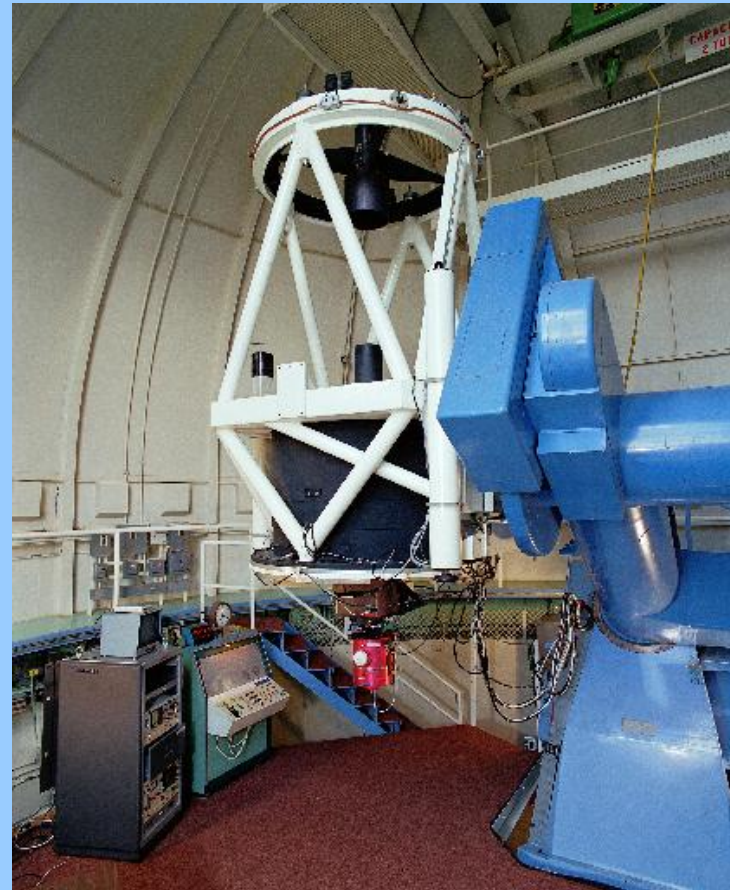
URIA tour of Observatories



1997 – 2000 Expansion

- **SCSU Invited to join consortium of schools to take over management of KPNO 1.3 meter**
 - **Robotically Controlled Telescope (RCT)**
 - **Once refurbished will be accessible in an automated mode and in real time over Internet**
 - **Desktop observing in SC with clear skies of AZ**
 - **Research education and outreach possibilities**

Remote Control of Telescope

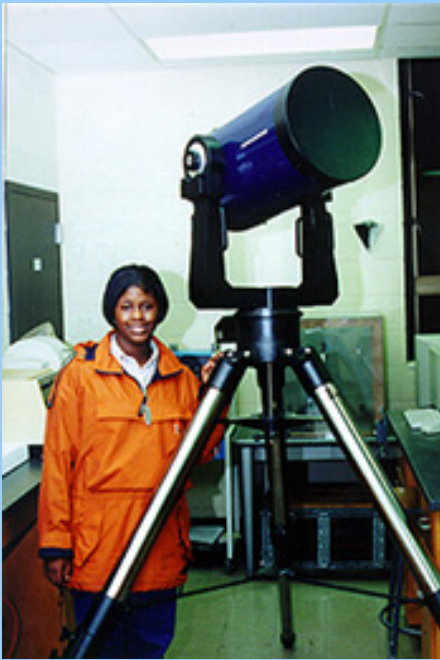


1997 – 2000 Expansion

- **Awarded MURED-PAIR**
 - Curriculum Enhancement
 - 3 SCSU departments
 - Student research teams
 - Robotics, Radio Astronomy, Database management
 - GSFC support, Dr. James Thieman
 - Additional Partners including minority-owned business A-Tech, UVI



1997 – 2000 Expansion



- **OSS/OEOP Space Science**
 - New tenure-track astronomer
 - GSFC, Dr. Theodore Gull
 - Lawrence Livermore asked to join
 - Student researchers to KPNO, GSFC, LLNL, Clemson
 - Graduate students to SCSU

Summary

- **Astrophysics growth**
- **Summer 1995: (Pre-MU-SPIN)**
 - 1 faculty, 2 students, \$12,000, SCSU students only
- **Summer 2000: (MU-SPIN, MURED)**
 - 6 faculty, 26 students, students from 6 schools
 - 5 K-12 faculty, 20 middle school students
 - \$200,000 for stipends, salaries, travel & supplies

Critical to our Growth

- **Funding & support from NASA and others**
- **Concentrating on our niche**
 - **undergrads, existing resources (planetarium, ERC)**
- **Numerous proposals (success 1 out of 3-5)**
- **Collaborations (over 30 partners)**
- **Networking within MU-SPIN, NASA Centers**